

primers X can hybridize to the oligonucleotide sequence Z and carries at the 5' end a means for attaching the colony primers to a solid support.

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REMARKS

The above amendment to the specification is being made to insert reference to the PCT application of which the present case is a U.S. national stage. The above amendments to the claims are being made in order to place the claims into better condition for examination. Please enter this amendment prior to calculation of the filing fee in this case.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with Markings to Show Changes Made."

Favorable consideration and allowance are earnestly solicited.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A method for amplification of at least one nucleic acid, comprising the following steps:-

(1) forming at least one nucleic acid template comprising ~~the~~ a nucleic acid(s) to be amplified, wherein ~~said~~ the nucleic acid(s) contains at the 5' end an oligonucleotide sequence Y and at the 3' end an oligonucleotide sequence Z and, ~~in addition,~~ the nucleic acid(s) carries at the 5' end a means for attaching the nucleic acid(s) to a solid support;

(2) mixing ~~said~~ the at least one nucleic acid template(s) with one or more colony primers X, which can hybridize to the oligonucleotide sequence Z and carries at the 5' end a means for attaching the colony primers to a solid support, in the presence of a solid support so that the 5' ends of both the at least one nucleic acid template and the colony primers bind to the solid support;

(3) performing one or more nucleic acid amplification reactions on the bound template(s), so that nucleic acid colonies are generated.

3. (Amended) A method as claimed in claim 1, wherein two different colony primers X are mixed with ~~said~~ the at least one nucleic acid template(s) in step (2), and wherein the sequences of colony primers X are such that the oligonucleotide sequence Z can hybridise to one of the colony primers X and the oligonucleotide sequence Y is the same as one of the colony primers X.

4. (Amended) A method for amplification of at least one nucleic acid, comprising the following steps:-

(3) performing one or more nucleic acid amplification reactions on the bound template(s), so that nucleic acid colonies are generated.

5. (Amended) A method as claimed in ~~any one of~~
~~claims claim 1 to 4~~, further comprising the additional step of
performing at least one step of sequence determination of one
or more of the nucleic acid colonies generated.

6. (Amended) A method as claimed in claim 5, wherein the sequence determination step~~(5)~~ involves the incorporation and detection of labeled oligonucleotides.

7. (Amended) A method as claimed in claim 5, ~~or 6~~ wherein the full or partial sequences of the amplified nucleic acid templates present in more than one nucleic acid colonies are determined simultaneously.

8. (Amended) A method as claimed in ~~any one of~~
~~claims 1 to 7~~ claim 5, further comprising the additional step
of visualizing the colonies generated.

9. (Amended) A method as claimed in claim 8,
wherein said visualization step involves the use of a labeled
or unlabelled nucleic acid probe.

10. (Amended) A method as claimed in ~~any one of~~
~~claims 1 to 9~~ claim 1, wherein the means for attaching the
nucleic acid template ~~(e)~~ and the colony primers to the solid
support comprises a means for attaching the nucleic acid
sequences covalently to the said support.

14. (Amended) A method as claimed in ~~any one of~~
~~claims 1 to 13~~ claim 1, wherein ~~said the~~ solid support is
selected from the group ~~comprising~~ consisting of latex beads,
dextran beads, polystyrene, polypropylene surfaces,
polyacrylamide gel, gold surfaces, glass surfaces, and silicon
wafers.

15. (Amended) A method as claimed in claim 14,
wherein ~~said the~~ solid support is glass.

16. (Amended) A method as claimed in ~~any one of~~
~~claims 1 to 15~~ claim 1, wherein the density of the nucleic
acid colonies generated is 10,000/mm² to 100,000/mm².

17. (Amended) A method as claimed in ~~any one of~~
~~claims 1 to 16~~ claim 1, wherein the density of colony primers
X attached to ~~said the~~ solid support is at least 1 fmol/mm².

18. (Amended) A method as claimed in ~~any one of~~
~~claims 1 to 17~~ claim 1, wherein the density of nucleic acid
templates is $10,000/\text{mm}^2$ to $100,000/\text{mm}^2$.

19. (Amended) A plurality of different nucleic acid
templates comprising the nucleic acids to be amplified,
wherein each of said nucleic acids contain at their 5' ends a
known oligonucleotide sequence Y and at the 3' end a known
oligonucleotide sequence Z and, ~~in addition~~, the nucleic
acid(s) carry at the 5' end a means for attaching the nucleic
acid(s) to a solid support.

20. (Amended) The plurality of nucleic acid
templates of claim 19, wherein oligonucleotide sequence Z is
complementary to oligonucleotide sequence Y.

21. (Amended) The plurality of nucleic acid
templates as claimed in claim 19 ~~when mixed~~ with a plurality
of colony primers X which can hybridise to the oligonucleotide
sequence Z and carry at their 5' ends a means for attaching
the colony primers to a solid support.

23. (Amended) A plurality of nucleic acid templates
as claimed in claim 19 ~~when mixed~~ with two different colony
primers X, ~~and~~ wherein the sequences of colony primers X are
such that the oligonucleotide sequence Z can hybridise to one
of the colony primers X and the oligonucleotide sequence Y is
the same as one of the colony primers X.

24. (Amended) A plurality of nucleic acid templates
as claimed in claim 21, wherein the colony primers X comprise

a degenerate primer sequence and the nucleic acid templates do not contain oligonucleotide sequences Y or Z.

25. (Amended) A solid support, to which there is attached a plurality of colony primers X as defined in ~~any one of the previous claims~~ claim 1 and a plurality of nucleic acid templates comprising the nucleic acids to be amplified, wherein each of said nucleic acids contain at their 5' ends a known oligonucleotide sequence Y and at the 3' end a known oligonucleotide sequence Z and the nucleic acids carry at the 5' end a means for attaching the nucleic acids to a solid support ~~as defined in any one of claims 19 to 24.~~

26. (Amended) A solid support as claimed in claim 25, wherein the solid support ~~is as defined in claim 14 and 15~~ selected from the group consisting of latex beads, dextran beads, polystyrene, polypropylene surfaces, polyacrylamide gel, gold surfaces, glass surfaces, and silicon wafers.

27. (Amended) A solid support as claimed in ~~any one of claims 25 or 26~~ claim 25, wherein the attachment of nucleic acid templates and colony primers to the solid support is covalent.

28. (Amended) A solid support comprising one or more nucleic acid colonies generated by a method as defined in ~~any one of claims 1 to 18~~ claim 1.

Claims 29-32 has been deleted.

33. (Amended) A kit for use in nucleic acid amplification or sequencing, comprising a plurality of nucleic

acid templates as defined in ~~any one of claims 19 to 24 and~~
one or more colony primers X as defined in any of the preceding
claims bound to a solid support, which one or more colony
primers X can hybridize to the oligonucleotide sequence Z and
carries at the 5' end a means for attaching the colony primers
to a solid support.

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